

5. QUODDY NARROWS TO PETIT MANAN ISLAND, MAINE

(1) This chapter describes the rugged Maine coast, with its numerous bays, coves, islands, and rivers, from Quoddy Narrows westward to Petit Manan Island. Cutler, Bucks Harbor, Machiasport, Machias, Jonesport, Millbridge, and several other coastal towns are discussed.

(2) **COLREGS Demarcation Lines.** - The lines established for this part of the coast are described in **80.105**, chapter 2.

(3) **Charts 13325, 13394, 13392.**—**Grand Manan Channel**, between the coast of Maine and Grand Manan Island, is an approach from westward to Quoddy Narrows and Passamaquoddy Bay. It is the most direct passage for vessels bound up the Bay of Fundy from along the coast of Maine. The channel varies in width from 5.5 miles abreast Campobello Island to 10 miles abreast Southwest Head, the southern point of Grand Manan Island. The western approach is marked by Machias Seal Island Light, which also marks most of the rocks and ledges that lie southwestward of Grand Manan Island. With the exception of the dangers between Machias Seal Island and Grand Manan Island, and the 33-foot unmarked rocky patch known as **Flowers Rock**, 3.9 miles west-northwestward of Machias Seal Island, the channel is free and has a good depth of water. The tidal current velocity is about 2.5 knots and follows the general direction of the channel. Daily predictions are given in the Tidal Current Tables under Bay of Fundy Entrance. Off West Quoddy Head, the currents set in and out of Quoddy Narrows, forming strong rips. Sailing vessels should not approach West Quoddy Head too closely with a light wind.

(4) The Bay of Fundy is a feeding and nursery area for endangered northern right whales from June through December and includes the Grand Manan Basin, a whale conservation area designated by the Government of Canada. Special precautions should be taken to avoid these animals. (See **northern right whales**, indexed as such, Chapter 3.)

(5) **Chart 13392.**—**Southwest Head**, the southern extremity of Grand Manan Island, is a high cliff. **Southwest Head Light** (44°36.0'N., 66°54.3'W.), 157 feet above the water, is shown from a 30-foot white tower on the cliff. A fog signal and radiobeacon are at the light. It is the principal mark for Grand Manan Channel. A lighted whistle buoy is 0.7 mile south-southwestward of the light.

(6) It is reported that the fogs often hang close in to the Maine coast between Machias Bay and West Quoddy Head, extending about one-third the way across Grand Manan Channel.

(7) **Machias Seal Island**, 10 miles southwestward of Southwest Head, is about 500 yards long and 28 feet high. **Machias Seal Island Light** (44°30.1'N., 67°06.1'W.), 82 feet above the water, is shown from a 60-foot white octagonal tower with a red top on the summit of the island; a fog signal is at the light. The island is steep-to on its western side. A drying reef, on the end of which is an islet, extends 0.4 mile northeastward. A covered rock is about 300 yards northward of the islet. Depths of 20 feet 0.6 mile eastward and 30 feet 1.2 miles east-northeastward of the light are unmarked as is a 14-foot shoal, sometimes marked by a tide rip, 0.3 mile southeastward of the island.

(8) **Southeast Shoal**, 1.2 miles southeastward of Machias Seal Island, is covered 9 feet. This shoal breaks in heavy weather and shows a rip during the strength of the tidal current, which

reaches a velocity of 3 knots. A depth of 30 feet is about 450 yards southeastward of the shoal.

(9) **North Rock**, 4 feet high and surrounded by shoal water to a distance of 800 yards, is 2.2 miles northward of Machias Seal Island Light. A 34-foot shoal spot is about 900 yards northeast of North Rock is about 44°32'30"N., 67°04'48"W. Another shoal spot covered 25 feet is 1.4 miles eastward of the rock in about 44°32'18"N., 67°03'16"W.

(10) **North Shoal**, covered 9 feet, is 1.6 miles northward of the light. A depth of 40 feet is 700 yards northward. The shoal breaks in heavy weather, and the whole area is marked by tide rips. A lighted bell buoy is 0.4 mile north of the shoal.

(11) **Middle Shoal**, 5 miles northeastward of Machias Seal Island, is covered 17 feet, with deep water close-to. The shoal shows a tide rip and breaks in heavy weather.

(12) **Bull Rock**, awash at low water and usually breaking, is 6.7 miles eastward of Machias Seal Island, and is marked by a lighted whistle buoy. It is surrounded by deep water. **Little Shoal**, a rocky patch covered 28 feet and usually marked by a tide rip, is about midway between Bull Rock and Machias Seal Island. **Guptill Grounds**, covered 29 feet and unmarked, are 1.2 miles south-southwestward of Bull Rock.

(13) **Local magnetic disturbance.**—Magnetic disturbance has been reported in the vicinity of 44°31.5'N., 66°55.0'W.

(14) **Southeast Ledge**, nearly 6 miles southeastward of Machias Seal Island, covered 24 feet, shows a tide rip and breaks in heavy weather. **Middle Breaker**, a 36-foot patch, marked by tide rips, is 1.4 miles northwestward of this ledge.

(15) **Wallace Ledge**, the northernmost of the Murr Ledges, 3.4 miles northeastward of Bull Rock, uncovers 9 feet. A lighted bell buoy is northwest of the ledge.

(16) Eastward of this area are numerous reefs and ledges. These dangers are described in **Pub. No. 145, Sailing Directions (En route), Nova Scotia, and the St. Lawrence**, published by the National Imagery and Mapping Agency, Washington, D. C. Some of the dangers are **Murr Ledges, Halftide Rock, St. Mary Ledge, Yellow Ledge, Cross Jack Ledge, Long Ledge, and White (West) Ledge**.

(17) **Chart 13394.**—The coast southwestward between West Quoddy Head and Moose Cove (44°44.2'N., 67°05.6'W.) is in general rocky, wooded, and steep-to, and is indented by several coves of slight importance. Along this stretch of coast from West Quoddy Head to Long Point (44°40.1'N., 67°09.3'W.), and particularly off Jims Head (44°45.7'N., 67°03.0'W.), a very rough sea builds up quickly when the wind is contrary to the tidal current and small craft may find themselves beset and unable to make the shelter of the coves without assistance. In 1986, a similar condition was reported to exist from Long Point as far southwest as Cross Island.

(18) **Carrying Place Cove**, on the west side of West Quoddy Head, has a few buildings at its head. **Wallace Cove**, 1.9 miles southwest of West Quoddy Head Light (44°48.9'N., 66°57.1'W.), and **Hamilton Cove**, 3 miles southwest of the light, have no distinguishing features.

(19) **Morton Ledge**, covered 6 feet and marked by a buoy, is 2.2 miles southwestward of West Quoddy Head Light, and 0.3 mile offshore. **Boot Cove**, 4 miles southwestward of the light, has a few small fishermen's houses at the head.

(20) **Baileys Mistake**, 5.5 miles southwest of West Quoddy Head Light, appears from offshore to be a good anchorage, but the holding ground is poor and it is not a good harbor even though a few fishing boats moor here. The village of **South Trescott** is at the head of the harbor. **Bailey Ledge**, which uncovers 5 feet, obstructs the western half of the entrance. A buoy marks the southern side of the ledge. **Jims Head**, on the northeastern side of the entrance, is 160 feet high and prominent. A whistle buoy is 0.2 mile south-southeast of the head.

(21) **Haycock Harbor**, the head of which is **The Pool**, is 6.3 miles southwestward of West Quoddy Head Light. The Pool is sometimes entered by small craft at high water. The depth inside is reported to be 7 feet. **Sandy Cove** is an open bight just southward of the harbor.

(22) **Moose Cove** is 7.8 miles southwest of West Quoddy Head Light. **Eastern Head**, the eastern extremity of the north entrance point, has a 198-foot hill behind it. **The Porcupine**, a distinctive 280-foot hill, is 1.8 miles northwestward of the head. **Mink Islet**, and **Little Mink Islet**, 6 feet high, are on **Eastern Head Ledges**, which extend over 0.2 miles offshore. **Little Moose Islet**, 10 feet high, is 250 yards northward of the ledges.

(23) **Moose River**, at the head of Moose Cove, bares at low water. There is a small wharf on the south side of the river at its narrowest point. On the north side of the river a rocky spit makes out, forming a natural shelter for small boats.

(24) **Chart 13392**.—From Moose Cove to Little River, a distance of about 6.5 miles, the coast has no features of importance. The several open, shallow coves include **Bog Brook Cove**, **Holmes Cove**, **Black Point Cove**, and **Long Point Cove**. Just north of Little River are **Almore Cove** and **Money Cove**. An unmarked 13-foot spot is about 0.25 mile southward of **Long Point**.

(25) **Little River** is about 14 miles southwestward of West Quoddy Head Light. In the middle of the entrance is **Little River Island**, which is wooded and has rocky sides. **Little River Light** (44°39.1'N., 67°11.5'W.), 56 feet above the water, is shown from a skeleton tower with a red and white diamond-shaped daymark on the northeast corner of the island; a fog signal is at the light. A bell buoy, 0.5 mile east-northeastward of the light, marks the entrance to the harbor.

(26) A tree-covered islet on the north side of the entrance, about 350 yards north of Little River Island, and two tree-covered islets off Western Head, on the south side of the entrance, are conspicuous. About 0.5 mile westward of Little River Island, on the prominent point on the south side of Little River, there is a conspicuous white house; and on the north side, about the same distance in, there is a conspicuous white building with a cupola in the village of Cutler.

(27) Little River is small, but is easy of access and is an excellent harbor of refuge, sheltered from all winds and with depths of 12 to 30 feet, good holding ground. The channel leads northward of the light and has a depth of about 28 feet. The anchorage just inside of Little River Island is about 0.5 mile long and 0.2 mile wide. The harbor is never obstructed by ice sufficient to prevent vessels from entering.

(28) **Eastern Knubble** is the point on the northern side of the entrance to Little River. Just south of Eastern Knubble and 100 yards offshore is **Little River Ledge**, which uncovers. A buoy westward of the ledge marks the south edge of another small ledge. A ledge extends 100 yards from the south shore, just eastward of a prominent point 0.5 mile west-northwest of Little River

Island. With these exceptions, there are no dangers in the harbor if the shores are given a berth of 100 yards. Numerous mooring piles are in the harbor and a lobster car is some distance off the large wharf.

(29) To enter Little River, pass northward of Little River Island, giving it a berth of 150 yards. Anchorage can be selected anywhere in midchannel inside the island. Small local craft anchor off the wharves in depths of 6 to 18 feet. The passage southward of Little River Island has a rocky bar across it with a least found depth of 10 feet in midchannel. This passage should not be used by strangers.

(30) **Cutler** is a village on the north shore of Little River. Many fishing vessels and lobster boats base at the harbor, and it is a popular yacht haven. There are two wharves with float landings; at the largest and westernmost, there is reported to be a depth of 10 feet. Gasoline, diesel fuel, ice, and water are available at this wharf and gasoline at the other. Groceries and limited marine supplies are available. Good roads lead to East Machias and to Lubec. A **harbormaster** who supervises the moorings lives at the shore end of the western wharf.

(31) Between Little River and Little Machias Bay there are no features of importance. **House Cove**, 0.6 mile west of **Western Head** (44°38.7'N., 67°11.5'W.), the point on the south side of the entrance to Little River, is a small open bight extending somewhat behind **Great Head**. **Deer Island**, 1.7 miles west-southwest of Western Head, is a small island close to shore. About 0.3 mile offshore in this vicinity is a series of ledges on which depths as shoal as 13 feet are found.

(32) **Little Machias Bay**, 2.5 miles west of Little River Light (44°39.1'N., 67°11.5'W.), is not used for an anchorage as it is exposed to southerly and southeasterly winds and is close to Little River and Machias Bay, both excellent anchorages. Little Machias Bay is 0.6 mile wide at the entrance, wider inside, and about 2 miles long. **Black Ledges** are bare islets 4 feet and 24 feet high in the middle of the entrance to the bay with deep water close-to on both sides. **Long Ledge**, which uncovers 14 feet, is in the middle of the bay 1 mile inside the entrance. Above Long Ledge the bay is much obstructed by shoals and ledges, two of which are **Upper Ledge** and **Widows Ledge**; both uncover 13 feet. Ruins of fishweirs are reported in the bay. There are some houses on the shores of the bay, but no wharves except for small craft at high water. **North Cutler** is a settlement on the north shore of the bay.

(33) **Old Man** is a small but conspicuous rocky island 71 feet high and grassy on top, 0.5 mile southeastward of Cape Wash Island off the entrance to Little Machias Bay. Old Man is a good mark and may be safely approached as close as 400 yards.

(34) **Cape Wash** and **Cape Wash Island** are on the western side of the entrance to Little Machias Bay. Reefs extend about 0.2 mile south of the island. Just westward of Cape Wash are **Big Holly Cove** and **Little Holly Cove**, which are important only to small craft. **Cutler Peninsula** as far north as Sprague Neck and North Cutler is a naval reservation. Numerous radio towers of various heights on the reservation are conspicuous.

(35) **Cross Island**, 1.6 miles southwestward of Old Man, is the large wooded island on the east side of the main entrance to Machias Bay. A few unpainted shacks on low, flat, **Grassy Point**, the northern extremity of the island, are prominent when approaching Cross Island Narrows from westward. Small thickly wooded **Mink Island** is 0.2 mile off the northeast shore of Cross

Island. From seaward, the most conspicuous mark on Cross Island is a skeleton lookout tower on a hill at the eastern end.

(36) **Double Head Shot Islands**, 0.5 mile eastward of Cross Island, are surrounded by ledges that extend out about 150 yards. The larger, southerly, island is 84 feet high. The northerly island is less conspicuous. A depth of about 6 feet can be carried between the islands.

(37) **Scotch Island**, 100 yards eastward of Cross Island, is 61 feet high.

(38) **Cross Island Narrows** is a channel leading into Machias Bay northeast of Cross Island. **Thornton Point** and **Quaker Head** are on the northern side of the passage. The channel is much obstructed by rocks, covered or awash at various stages of the tide, and should not be used without local knowledge. Small craft can go through the narrows by closely following the chart and not placing too much reliance on the floating aids, which are apt to drag from station during heavy weather. **Dogfish Rocks**, about 350 yards northward of Grassy Point, uncover 8 feet. A buoy is north of the rocks.

(39) Cross Island Narrows is seldom obstructed by ice in the winter and consequently **Northeast Harbor**, the cove southwestward of Mink Island, is much used as a winter anchorage by small fishing boats. In November 1982, a ledge awash was reported on the west side of the harbor in about 44°36'57"N., 67°17'20"W.

(40) **Chart 13326.—Northwest Harbor**, a bight in the northwestern shore of Cross Island, has depths of 21 to 54 feet but is little used as an anchorage. A cable area extends across the south half of the harbor.

(41) **Seal Cove Ledge**, extending 400 yards southwestward from Cross Island, has a least depth of 10 feet and is marked on the southwest side by a buoy.

(42) **Machias Bay**, about 22 miles southwestward of West Quoddy Head Light, is the approach to Machias River, and the towns of Machiasport and Machias. The bay is about 6 miles long and 1 to 3 miles wide, is easily entered day or night, and affords well-sheltered anchorage for large vessels. The 2-mile-wide main entrance is between Cross Island on the east and Stone Island on the west. Sheep are kept on several of the islands in Machias and Englishman Bays during the summer.

(43) **Libby Islands**, in the middle of the entrance, are two flat grassy islands connected by a bare ledge. Sunken ledges extend about 300 yards off the southern end of the southwestern island and about the same distance off the eastern shores of both of the islands.

(44) **Libby Island Light** (44°34.1'N., 67°22.0'W.), 91 feet above the water, is shown from a 42-foot granite conical tower on the southwestern island. A fog signal is at the light. The light is obscured from 208° to 220°. The light is the principal guide to the entrance to Machias Bay. This light and the buildings of the light station, the numerous radio towers on Cutler Peninsula northward of Cape Wash (see chart 13327), and the domes of the two radar towers on Howard Mountain (44°37.8'N., 67°23.8'W.) are the prominent objects in the area.

(45) Several vessels have been wrecked on the eastern side of Libby Islands during thick weather, indicating a possible dead zone for sound signals to the eastward.

(46) **Avery Rock** is in the middle of the bay, 4 miles from the entrance, and is marked by a light. It is the guide for vessels

bound up the bay. The best anchorages are in Starboard Cove and in the head of the bay above Avery Rock.

(47) A 452-foot U.S. Navy oil handling pier with a 244-foot T-head, deck height, 16 feet, is on the east side of the entrance to **Great Pond Cove**, about 2.2 miles east-southeastward of Avery Rock. In 1975, 25 feet was reported alongside the head.

(48) **Ram Island** and **Foster Island**, about 1.5 miles west of the Libby Islands, are grass-covered and surrounded by ledges.

(49) **Foster Channel**, between Foster and Ram Islands, is a narrow passage between Englishman Bay and the western side of the entrance to Machias Bay. The buoyed channel has a depth of about 18 feet.

(50) **Starboard Island Ledge**, 0.5 mile east of Foster Island, is covered 7 feet and marked by a buoy off its southeastern end.

(51) **Stone Island**, 1.1 miles northwest of Libby Islands, is wooded and has an 89-foot bare rocky face at the south end. **Stone Island Ledge**, 0.2 mile east of the island and covered 8 feet, is marked by a daybeacon.

(52) **Starboard Island**, 0.7 mile west of Stone Island, is 70 feet high and grassy at the southwest end and sparsely wooded at the northeast end, and has a conspicuous house in the western slope. **Starboard Island Bar**, which uncovers 7 feet, connects the island with the shore.

(53) **Starboard Cove**, on the western side of Machias Bay 2.5 miles northward of Libby Island Light, is formed on the south by Starboard Island and the bar.

(54) Excellent anchorage, except in easterly weather, is available in Starboard Cove in depths of 15 to 24 feet. The cove is frequented by coasting vessels bound through Moosabec Reach making anchorage for the night. A good berth is in the middle of the cove, with the north end of Starboard Island in line with the south end of Stone Island, in depths of 18 to 21 feet. Small vessels can anchor closer to the bar, provided they take care not to shut out the north end of Stone Island by the north end of Starboard Island. The cove is entered eastward of Starboard Island, passing on either side of Stone Island.

(55) **Starboard** is a small village on the western side of Starboard Cove. A boatyard on the northwest side makes engine and hull repairs. Some marine supplies are available.

(56) **Howard Cove**, northward of Starboard Cove, is not a good anchorage; the holding ground is poor and the cove is exposed to southeast winds. **Jasper Beach** at the head of the cove is composed of small stones of Jasper quartz of all colors. There are no wharves. Broken ground, including a rock which uncovers 4 feet, extends 0.3 mile southward and 0.7 mile eastward from **Howard Point**, the eastern entrance point of the cove. The eastern extremity of this broken ground is **Seashore Ledge**, covered 4 feet, and marked by a buoy.

(57) **Bucks Harbor** is a shallow cove in the west shore of Machias Bay 4 miles northward of Libby Island Light. **Bar Island** is on the northern side of the entrance to the harbor, and **Bucks Head** is on the southern side. Vessels should enter midway between Bar Island and Bucks Head to avoid the fishweirs off the southern shore. The small fishing village of **Bucks Harbor** is on the slope westward of the harbor. Small vessels can anchor 200 yards off the southern side of Bar Island in depths of 7 to 15 feet, or southeast of **Bucks Neck** where depths of 6½ to 8 feet were available in June 1983. The ruins of a footbridge, which formerly connected Bucks Neck with the settlement of Bucks Harbor, are on the western side of the harbor. On the southwest side of Bucks Harbor, opposite Bar Island, and 0.4 mile in from Bucks

Head, is a 130-foot pier with a 30-foot T-head and a float which has from 4 to 6 feet alongside. Gasoline is piped to the float. Another 140-foot pier with 4 to 6 feet alongside its float landing is on Bucks Neck. Gasoline and diesel fuel are piped to the float. Some marine supplies are available. An elevated shed on the end of this pier is prominent. Provisions and some marine supplies may be obtained at a store in the village.

(58) **Colbeth Rock**, 0.7 mile east-southeastward of the northern tip of Bucks Head, is covered 28 feet, breaks in heavy weather, and is unmarked.

(59) All of the islands in Machias Bay above the entrance are high and wooded, with rocky shores. **Yellow Head**, 0.4 mile east of Bar Island, is high, yellow in color, and a good landmark. **Chance Island**, 0.8 mile eastward of Yellow Head, is 123 feet high and wooded on its northern part. **Bare Island** is 0.2 mile north-northwest of Yellow Head and northeastward of Bar Island. **Salt Island**, 137 feet high, is 0.6 mile north of Bare Island. **Round Island**, 134 feet high, is 300 yards northeastward of Salt Island. **Hog Island**, 30 feet high, is 0.8 mile northeast of Round Island.

(60) **Larrabee Cove**, largely dry at low water, and **Indian Cove** are small indentations in the west shore of Machias Bay northwest of Avery Rock. These coves are of little importance. Good anchorage for vessels of 8 feet draft may be found on the flats between Salt Island and Bare Island, near the entrances to the coves. The ruins of a fishhouse and small wharf, nearly bare at low water, are in Indian Cove. A rock, which uncovers 9 feet, in the middle of the cove, is the principal danger. The small village of **Larrabee** is at the head of Larrabee Cove.

(61) **Holmes Bay**, a large bight in the northeastern part of Machias Bay and northeast of Hog Island, is shallow and has extensive reefs. A seafood-packing plant and wharf which dries at low water are on the north shore of the bay. A white schoolhouse on the point close eastward of the factory and a white church with belfry, about 0.6 mile westward, are conspicuous. Most of the bay dries at low water and is used only by fishermen.

(62) **Machias River**, which empties into the northwestern part of Machias Bay, has a narrow, winding channel leading through flats that are mostly bare at low water. The least depth in the channel to the town of Machiasport is about 17 feet. Above Machiasport, the channel has shoaled to less than 1 foot in the bend below Machias, but with local knowledge 2 to 3 feet can be carried to Machias.

(63) A fixed highway bridge with a clearance of 25 feet crosses the river about 2 miles below Machias. A powerplant and milldam cross the river at **Machias Falls** at Machias.

(64) The mean range of tide is 12.6 feet at Machiasport.

(65) In severe winters, Machias River is closed to navigation by ice, and drift ice will sometimes fill the bay above Avery Rock. In ordinary winters the bay and river are open to Machiasport.

(66) **Machiasport** is a town on the west bank of the Machias River, 2.5 miles above the entrance. Prominent landmarks include a church spire, the cupola of the town hall, northward and below the spire, the tall metal stack of a cannery, and a white church with belfry on the slope of the east bank of the river opposite the town. The **harbormaster** can be reached through the town clerk's office.

(67) The cannery wharf has 8 feet reported alongside. There is a boatyard with marine railways capable of hauling out craft up to 50 feet long. Hull and engine repairs are available. A good road

connects Machiasport with U.S. Route 1, the main coastal highway, at Machias.

(68) **East Machias River**, which empties into Machias River from northeastward 1 mile above Machiasport, is practically bare at low water at **East Machias**, a village on the railroad 1.5 miles above the entrance. The channel is difficult and is little used except by small craft.

(69) **Machias** is a town of marked historical interest at the head of navigation on Machias River. There is no waterborne commerce. Most of the wharves are in ruins, dry at low water, and unsafe to lay at due to projecting underpinning. A town concrete ramp is on the west side of the entrance to **Middle River**. The entrance to the river is crossed by an earth-fill causeway with culvert openings. The Machias Boat Club is at Machias. Gasoline, limited marine supplies, banks, groceries, motels, a pharmacy, and hospital are available in the town.

(70) Craft bound for Machias Bay and River from the eastward should not attempt passage through Cross Island Narrows without local knowledge. With the aid of the chart they should have no trouble passing southward of Cross Island, and when clear of Seal Cove Ledge, the buoyed ledge at the southwest end of the island, shape up the bay for Avery Rock. Pass either side of the rock, preferably to the westward, passing eastward of Round Island, then head up for the river entrance, which is marked by a buoy on its southwestern side. The chart is the guide.

(71) Approaching from the southward and westward, vessels with the aid of the chart may pass either side of Libby Islands and head up the bay for Avery Rock, keeping clear of Stone Island Ledge and unmarked Colbeth Rock. Pass westward of Avery Rock and proceed as in the preceding paragraph.

(72) Anchorage may be had anywhere between Avery Rock and Round Island, or eastward or northeastward of the latter at a distance not greater than 0.5 mile, in depths of 30 to 45 feet.

(73) The channel in Machias River is marked by buoys to about 0.8 mile below Machiasport and should be followed with the aid of the chart. The best time is at low water when the flats are visible and the channel more clearly defined. Small vessels often anchor in the channel off the wharves at Machiasport, or for a distance of about 0.5 mile southward of the wharves.

(74) Above Machiasport, the channel that leads between shoals which uncover is sometimes marked by stakes. Local knowledge is necessary to carry the best water, but strangers in small craft should have no trouble in going to Machias on a rising tide with the aid of the chart.

(75) Englishman and Chandler Bays form a large bight in the coast between Libby Islands and Head Harbor Island. **Roque Island**, 6 miles west of Libby Islands, and numerous smaller islands are in the middle of the bight. The bays join northward of Roque Island and form a good anchorage, with depths of 18 to 32 feet and good holding ground.

(76) **Englishman Bay**, northward of Roque Island, has numerous dangers, most of them unmarked, in the approach to the anchorage northward of Roque Island, but the buoyed channel is broad and is easily followed in daytime and in clear weather with the aid of the chart. The principal entrance to the bay from eastward is between Scabby Islands on the east and The Brothers on the west, and affords a straight channel to Shoppee Island above which is the anchorage. The principal dangers are Scabby Island Ledge, Codhead Ledge, Halifax Island Reef, and Boundary Ledges.

(77) The bay may be entered from Machias Bay through Foster Channel. Vessels from westward, bound to the anchorage at the head of Englishman Bay or to Chandler River, usually pass through Chandler Bay. Foster Channel and the adjacent islands have been discussed previously.

(78) **Scabby Islands**, on the eastern side of the main entrance to Englishman Bay, are grass covered. A 93-foot mound on the larger Scabby Island is the most prominent mark in approaching Foster Channel from westward. Sheep are kept on Scabby Islands and several other islands in the bay. A covered rock is 400 yards north of Scabby Islands. **Scabby Island Ledge**, awash at low water and unmarked, is 250 yards southwestward of the islands.

(79) **Codhead Ledge**, awash at low water and marked by a buoy, is 1.5 miles northwestward of the Scabby Islands.

(80) **Shag Ledge**, 0.9 mile eastward of Codhead Ledge, has a low grass-covered islet 13 feet high on its western end. The northeast end of the ledge is covered only at high water, and the south end shelves off to 13 feet. An unmarked shoal covered 5 feet is midway between Codhead and Shag Ledges.

(81) **Pierson Ledge**, 0.4 mile northward of Shag Ledge and 350 yards west of **Point of Main**, uncovers 4 feet.

(82) **Hickey Island**, 0.7 mile northwestward of Shag Ledge and in the entrance to Little Kennebec Bay, is 38 feet high and partly wooded. Sheep are kept on the island. Small craft can find shelter in a small cove in the north side of the island. A rock awash at low water is 250 yards off the east side of the island, and a ledge extends 200 yards south of the island. About 250 yards north of the island is a shoal covered 7 feet.

(83) **Little Kennebec Bay**, which extends northward from the eastern part of the Englishman Bay, is of little commercial importance and is frequented mostly by fishermen. Good well-sheltered anchorage can be found in depths of 12 to 40 feet, soft bottom, northward of **Sea Wall Point**, taking care to avoid the cable area that extends northeast from it. However, this anchorage is seldom used, as nearby Machias Bay and Starboard Cove are much easier of access and are better anchorages. There are fishweirs in the upper part of the bay.

(84) **The Brothers**, grassy islands with rocky shores, are on the southwestern side of the main entrance to Englishman Bay. A bell buoy is off the northeast end of The Brothers. Shoaling to 3 feet extends 300 yards southwest from the islands.

(85) **Green Island**, 0.3 mile north of The Brothers, is grassy. **Green Island Ledge**, partly bare at low water, extends 0.3 mile eastward from the island and is marked by a buoy on its eastern side. A ledge, awash at high water, extends 200 yards westward from Green Island.

(86) **Brothers Passage**, between Green Island and The Brothers, has a depth of 27 feet in midchannel.

(87) **Pulpit Rock**, 1 mile westward of The Brothers, is a bare rocky islet. The southern and eastern sides should be given a berth of at least 300 yards, as a rock covered 7 feet is about 150 yards southeastward of it.

(88) **Jumper Ledge**, about 0.6 mile southward of Pulpit Rock and covered 5 feet is marked by a buoy. An unmarked 28-foot spot is 0.8 mile east-southeastward of the ledge. **Misery Ledge**, covered 14 feet, about 0.6 mile south-southeastward, is also unmarked.

(89) **Halifax Island**, 0.8 mile northwestward of Green Island, is grass-covered with rocky sides, and has a prominent mound at its western end. **Anguilla Island**, **Double Shot Island**, **Great Spruce Island**, and **Little Spruce Island**, all westward of Hal-

ifax Island, are wooded. A rock, which uncovers 6 feet, is 350 yards southeastward of Halifax Island. A bar with depths of 15 to 26 feet extends from Halifax Island to Green Island. The current is reported to boil over the bar, and this passage should be used with caution. An unmarked 29-foot spot is 0.6 mile east of Halifax Island.

(90) A rock that uncovers 7 feet is 300 yards southward of Double Shot Island. **Shag Rock**, 500 yards eastward of Double Shot Island, is 14 feet high and bare.

(91) **Roque Island Harbor** is formed on the north and west by Roque Island and Lakeman and Bar Islands, and on the south by Great Spruce Island and the islands extending eastward to Halifax Island. The harbor affords shelter from all winds and is used by small vessels, but the holding ground is not good except in spots. The best anchorage is in the western or northwestern parts of the harbor where the bottom is soft.

(92) The best entrance to Roque Island Harbor is northward of Halifax Island across a rocky reef with spots of 5 to 10 feet. Kelp is reported to be visible at low water on the reef.

(93) **Lakeman Island**, **Bar Island**, and **Marsh Island** are off the east side of Roque Island and on the northern side of the entrance to the harbor.

(94) To enter Roque Island Harbor, follow the chart carefully, keeping clear of unmarked dangers in the entrance. The principal dangers in Roque Island Harbor include a spot with 8 feet on it 0.2 mile off the middle of the north side of Great Spruce Island, and unmarked **Seal Ledge**, which uncovers 5 feet and is 300 yards westward of the southern point at the eastern end of Roque Island.

(95) **Lakeman Harbor**, on the northeast end of Roque Island Harbor, is a good anchorage for small craft.

(96) The **Thorofare**, connecting the southwest side of Roque Island Harbor with Chandler Bay, has a depth of 8 feet and a reported covered rock in a narrow, crooked channel. The bottom is visible in the shoaler parts of the channel. The Thorofare is used considerably by small vessels with local knowledge. Strangers should avoid it.

(97) **Bunker Cove**, between Great Spruce and Little Spruce Islands and the Thorofare, is a good harbor and is used for winter storage of small craft. Small craft often anchor in its entrance just off the Thorofare.

(98) **Shoppee Island** (44°36.1'N., 67°29.4'W.), 2 miles northwest of Halifax Island, is flat and wooded except at the northwest end. Sheep are kept on the island. **Boundary Ledges** extend northeastward from Roque Island to within 0.4 mile of Shoppee Island. The rocks at the outer end of the ledges, bare at low water, are marked by a buoy.

(99) **Shoppee Point** is on the mainland 0.3 mile north of Shoppee Island. A private wharf with a 45-foot outer face is on the northwest end of the point; a depth of 9 feet is alongside the face.

(100) **Roque Bluffs** is a village 0.6 mile eastward of Shoppee Point. The mouth of **Englishman River**, southeast of Roque Bluffs, is crossed by a fixed highway bridge with a clearance of 3 feet. The river bares at low water above the bridge. The yellow bluffs at the mouth of the river are prominent from the southward.

(101) **Shorey Cove**, a bight in the north shore of Roque Island, has depths of 7 to 13 feet. The cove is a good anchorage for small vessels, but is little used. There are no dangers if the southern and western shores of the cove are given a berth of over 300 yards.

There is a private landing in the cove on the east side of **Squire Point**, the northwest extremity of Roque Island.

(102) **Great Cove**, on the northeast side of Englishman Bay above Shoppee Point, has its entrance between **Pond Cove Island**, 1 mile northwestward of Shoppee Island, and **Little Ram Island**, 1 mile north of Roque Island. The entrance is clear of dangers with the exception of **Lapstone Ledge**, which uncovers 3 feet, 300 yards northward of Little Ram Island. Excellent anchorage may be had in depths of 10 to 17 feet, soft bottom, up to 0.6 mile westward or northwestward of Pond Cove Island. The part of the cove northward of Pond Cove Island is shoal. There are numerous fishweirs in the cove.

(103) **Chandler River**, at the head of Englishman Bay, is very narrow and crooked to the head of navigation at **Jonesboro**, a village about 3.5 miles above the mouth. The river is bare at low water at Jonesboro. There are several fishweirs in the river. The channel is unmarked, and strangers should not attempt to enter without local knowledge. Drafts of 14 feet have been taken to **Kilton Point**, about 1.5 miles above the mouth. The only traffic to Jonesboro consists of small boats engaged in fishing and clamming. On the northeast side of the river, 0.5 mile above Kilton Point, are the ruins of a clam factory. Small boats sometimes venture up the river to the highway bridge, above which are the ruins of a former dam; rapids are above the ruins.

(104) Ice closes Chandler River to Kilton Point from about December to April. It is reported that the river seldom freezes below **Deep Hole Point**, 0.3 mile southeastward of Kilton Point, but in extreme winters the bay is said to have been frozen as far as Roque Island.

(105) **Mason Bay**, extending westward from the head of Englishman Bay, is practically bare at low water and has many rocks inside the entrance. An unmarked channel with a depth of 13 feet leads to the entrance from southward. The northern entrance is foul. The small settlement of **Mason Bay** is on the south side of the bay just inside the entrance. Fishweirs are numerous in the vicinity.

(106) **Chandler Bay**, on the west side of Roque Island, extends northward from Mark Island to Squire Point where it joins Englishman Bay. A channel leads eastward of Ballast Island and around Squire Point into Englishman Bay and Chandler River. The principal dangers are buoyed, and the channel can be followed readily during daytime in clear weather with the aid of the chart. The bay is the approach from the westward to Chandler River and the anchorage in Englishman Bay, and is the one generally used by strangers. There are no good anchorages in the bay until north of Roque Island. Care should be taken to avoid the unmarked 17-foot rocky patch in the southern entrance 0.7 mile westward of Little Spruce Island.

(107) There are numerous dangers off Chandler Bay. **Big Breaking Ledge**, a pinnacle awash at low water, is on the western side of the approach from sea, 0.2 mile eastward of Head Harbor Island. **Little Breaking Ledge**, covered 9 feet and marked by a lighted gong buoy 200 yards east-northeast of it, is about 0.4 mile north-northeastward of Big Breaking Ledge. **Black Rocks (Eastern Ledges)**, about 600 yards long, are 1.4 miles south of Great Spruce Island. At the easterly end of Black Rocks is a rock that uncovers 4 feet, and at the westerly end is a rock covered 3 feet. **East Black Rock**, 0.7 mile northeastward of Black Rocks uncovers 10 feet and is marked by a daybeacon and almost always by a breaker. **West Black Rock**, covered 7 feet, is 400 yards

southwest of Black Rocks. A buoy is about 100 yards southwest of the rock.

(108) In Chandler Bay, **Great Spruce Ledges** are close to the south side of Great Spruce Island; the southernmost rock is 3 feet high. **Wallace Ledge**, 350 yards off the southwestern side of Little Spruce Island, uncovers 4 feet. **Ballast Island**, on the western side of the main channel through Chandler Bay and 0.9 mile west of Roque Island, is grassy; a buoy marks the eastern end of **Ballast Island Ledge**, which extends 200 yards eastward of the island. **Roque Island Ledge**, marked by a buoy at its western end, extends 700 yards off the west side of Squire Point. Just above Squire Point, **Great Bar** extends from the western shore of Chandler Bay for 0.5 mile. The buoy off the end of the bar marks the western side of the channel into Englishman Bay.

(109) Vessels bound into the anchorage northward of Roque Island, either through Englishman Bay or Chandler Bay, should have no difficulty, with the aid of the chart. Due regard should be given to the many unmarked dangers and the necessity for caution if the waters are unfamiliar.

(110) **Moosabec Reach** is the narrow passage west of Chandler Bay leading between the mainland on the north and the group of islands on the south from Chandler Bay to Tibbett Narrows. The passage is an important thoroughfare and is much used in the daytime by vessels drawing up to 10 feet; a draft of 21 feet can be taken through at high water. **Mark Island**, 123 feet high and heavily wooded, is the prominent guide to the eastern entrance, and Nash Island Light (see chart 13324) to the western approach. **Kelley Point** is the northeastern entrance point on the mainland, 1.2 miles west of Mark Island.

(111) The channel in Moosabec Reach is well marked. With local knowledge, a depth of about 11 feet can be carried. Vessels can readily follow the channel in daytime with the aid of the chart in clear weather, but strangers should not attempt passage at night. **Emms Rock Light 9** (44°31.7'N., 67°34.0'W.), 28 feet above the water, is shown from a gray skeleton tower with a square green daymark on the south side of the channel. The light is on the north end of the stone breakwater extending southeastward to **Nova Rocks**, about 0.25 mile south of Kelley Point. The breakwater uncovers about 3 feet. A daybeacon is on **Gilchrist Rock**, 0.5 mile west of Mark Island; and another daybeacon is on **Snows Rock**, about 0.5 mile southwest of Kelley Point.

(112) A fixed highway bridge with clearance of 39 feet crosses Moosabec Reach from Jonesport to Beals, about 2 miles west of Kelley Point. Lights in the center of the span and on each side of the fender piling mark the navigation channel through the bridge.

(113) Vessels caught by fog in the reach anchor anywhere in the channel where there is swinging room and the bottom is soft.

(114) **Pilots** can usually be obtained from among the local fishermen.

(115) The mean range of **tide** is 11.5 feet. The tidal currents have considerable velocity in the dredged channel, particularly at the light on the stone jetty. The current floods to the eastward and ebbs to the westward. Back eddies form with the beginning of the tidal flow on each side of the bridge. This condition is caused by the solid fill causeway approaches to the bridge. The channel is reported to have been ice-free in recent years.

(116) **Jonesport** is a fishing village on the north shore of Moosabec Reach. There is considerable trade in fish and lobsters. Boatbuilding is important, especially sport fishing boats in recent years.

(117) The bridge over the reach is prominent. Conspicuous on the north side of the reach are a green church belfry, in West Jonesport; a large red brick two-story schoolhouse; and the spire of a church and oil tanks, about 0.8 mile eastward of the bridge and just westward of **Sawyer Cove**. On the south side of the reach, the belfries of two white churches in Beals are prominent.

(118) A dredged channel, east of Jonesport, leads from Moosabec Reach, between a breakwater on the east and shore on the west, inside Sawyer Cove to an anchorage basin with an 8-foot south anchorage and a 6-foot north anchorage. In December 1998, the controlling depths were 7 feet in the entrance channel and south anchorage, thence 5 feet in the north anchorage

(119) **Quarantine, customs, immigration, and agricultural quarantine.** (See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

(120) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(121) Jonesport is a **customs port of entry**.

(122) **Jonesport Coast Guard Station** is on the north side of Moosabec Reach, just westward of the bridge. The wharf at the station has a depth of 14 feet alongside. Gasoline and diesel fuel are available at two lobster piers. The pier just east of the bridge has a reported depth of 8 feet alongside its float landing; depths of 3 feet were reported alongside the float landing of the pier on the west side of Sawyer Cove. A boatyard in a cove about 0.7 mile eastward of the bridge builds boats up to 45 feet in length and can haul out on skids boats up to 40 feet in length for hull or engine repairs. Groceries and marine supplies are available in town. A town launching ramp, pier, and float are on the west side of Sawyer Cove, depths of 4½ feet are reported alongside. There are good roads to U.S. Route 1, the primary coastal highway.

(123) Beals is a village on the northern end of Beals Island, which is on the south side of Moosabec Reach opposite Jonesport. The main wharf at the northeastern extremity of the island, close eastward of the bridge, has 2 feet alongside. Diesel fuel, gasoline, provisions, and limited marine supplies are available at the wharf. In 1970, a clam processing plant was in operation close eastward of the wharf.

(124) **Beals Harbor** is on the northwest side of Beals Island about 0.2 mile westward of the bridge. The fish wharves in the harbor bare at low water. Depths of 1½ to 8 feet were available in the anchorage basin in the middle of the harbor in August 1991.

(125) There are several boatyards on Beals Island where fishing craft up to 65 feet in length are built.

(126) **Indian River** and **West River**, extending northward from near the western end of Moosabec Reach, have crooked unmarked channels fringed by rocks. The rivers are frequented only by local fishermen. There are no landings except for small craft at high water.

(127) **Wohoa Bay**, 3 miles west of Jonesport, is the large bay northeast of **Moose Neck** and south of Bickford Point. Good anchorage is reported between **Carrying Place Island**, 300 yards northeast of Moose Neck, and **Fessenden Ledge**, in depths of 12 to 37 feet.

(128) Several islands are adjacent to the usual route through the western part of Moosabec Reach. **Pomp Island**, 1.2 miles west of Beals Island, is wooded. A rock awash and marked by a daybeacon is about 200 yards west of the island. **Hardwood Island**, 0.5 west of Pomp Island, also is wooded and has a house on the north end and a prominent quarry on the south side. A 13-foot

shoal is in midchannel between this island and **Fessenden Ledge**, 0.5 mile northwestward. Fessenden Ledge uncovers 1 foot and is marked by a lighted bell buoy. **Shabbit Island Ledge**, 0.5 mile westward of Hardwood Island, uncovers 11 feet and is marked by a buoy. **Shabbit Island**, 1.1 miles southwestward of Hardwood Island, is low and wooded in the center and has several small cottages on it; a buoy is 200 yards west of the island.

(129) **Head Harbor** is between **Head Harbor Island**, the easternmost island of the group, and **Steele Harbor Island**. The harbor affords sheltered anchorage in depths of 14 to 20 feet. It is small, and has unmarked rocks bare at low water on both sides of the entrance and anchorage. Strangers are advised to use caution in this area. The rocks of **Man Island** and **Black Head**, the eastern side of the entrance, are dark, while those on the western side are light in color.

(130) **Mistake Harbor**, westward of Steele Harbor Island, is small, but affords secure anchorage in depths of 20 to 42 feet. The entrance from southward is through **Main Channel Way**, a deep but narrow channel leading between Steele Harbor Island on the northeast and **Mistake Island** and **Knight Island** on the southwest. With care, the harbor may also be entered through Mud Hole Channel.

(131) **Moose Peak Light** (44°28.5'N., 67°31.9'W.), 72 feet above the water, is shown from a 57-foot white tower on the southeastern extremity of Mistake Island; a fog signal is near the light.

(132) To enter Mistake Harbor through Main Channel Way, give the south end of Steele Harbor Island a berth of about 0.3 mile when southeastward of it and enter in midchannel. When through the narrowest part of the channel, select anchorage in depths of 20 to 42 feet between the northwest end of Knight Island and the buoy 0.5 mile northwestward of it, taking care to avoid a cable area that extends northwesterly from Knight Island. The buoy in the middle of Mistake Harbor marks a rock that uncovers 1 foot.

(133) **Green Island** is the largest of the islands and rocks extending northwestward along the south side of Mistake Harbor. Rocks awash at low water are 300 yards northward and over 400 yards northwestward of the island. Two rocks covered 4 feet are 600 yards northwestward of the island.

(134) **Eastern Bay** is northward of Mistake Harbor between Head Harbor and Great Wass Islands; thorough local knowledge is required to navigate the bay.

(135) **Mud Hole Channel**, 0.5 mile westward of Moose Peak Light, leads northwestward to Mud Hole, which is a narrow cove in Great Wass Island, and to the western end of Mistake Harbor. Good anchorage is available for small vessels at the entrance to Sand Cove and Mud Hole, in depths of 14 to 30 feet, soft bottom.

(136) **Black Ledges**, on the southwest side of Mud Hole Channel and extending about 1 mile in a southeasterly direction from **Little Cape Point** on Great Wass Island, consist of a group of rocks and ledges, some of which uncover 10 feet. **Channel Rock**, the southeasternmost of the Black Ledges, uncovers 14 feet. **Freeman Rock**, 600 yards southwestward of Channel Rock, is bare and about 40 feet high.

(137) The principal dangers on the northeast side of Mud Hole Channel are a rock which uncovers 5 feet, 150 yards off the southwest side of the island on the northeast side of the entrance, and the shoals west of Green Island.

(138) Local knowledge is advisable for passage through Mud Hole Channel from Mistake Harbor to the sea, or northward

through Eastern Bay to Moosabec Reach as the dangers are numerous and unmarked. Passage can be made in daytime only with the aid of the chart.

(139) In 1968, there were reported at least six abandoned, broken-off weirs on the west side of Eastern Bay from Mink Island north, most of them unbrushed and visible only at near low water.

(140) **Pig Island Gut Channel**, a dredged channel marked by buoys, leads from the head of Eastern Bay through Pig Island Gut and Alley Bay into Moosabec Reach. A dredged anchorage is adjacent to the channel, south of Pig Island. In May 1988, the midchannel controlling depth was 2½ feet; depths of 3½ to 6 feet were available in the anchorage. A rock awash is close southwest of the channel in about 44°31'04"N., 67°35'38"W.; several rocks covered about 2 feet are close eastward of the rock awash. In February 1984, rocks awash were reported along the northeast channel limit between Buoys 12 and 14.

(141) **Great Wass Island**, 1.5 miles westward of Steele Harbor Island and southward of Jonesport, has a number of coves that are frequented by small craft. A lobster pound is on the west side of the island in **Black Duck Cove**, about 2.0 miles northward of **Pond Point**, the southernmost tip of the island. During the spring and fall, gasoline and diesel fuel are available at the pound's wharf which bares at low water. **Sand Cove**, on the east side of the island about 2.5 miles northward of Pond Point, is used by fishermen; **Mud Hole**, immediately southward of Sand Cove, is occasionally used by fishermen for winter haul-out storage. There are a number of boatyards on the island which build boats up to 45 feet in length. **Red Head**, on the southern side of the island, appears reddish from offshore.

(142) **Western Bay**, westward of Great Wass Island, has numerous groups of islands which lie mostly in a north-and-south direction. Between the groups are passages leading to the western end of Moosabec Reach that are used by vessels with local knowledge.

(143) **Crumple Island**, 0.4 mile southwest of Pond Point, is a high, bare, rocky island with several nubbles. **Fisherman Island**, 0.2 mile northwestward of Crumple Island, and **Browney Island**, 1.2 miles northwestward of Crumple Island, have rocks and ledges between them. The passage between Great Wass Island and Crumple, Fisherman, and Browney Islands, has numerous unmarked covered rocks. A line of ledges and rocks extends from Browney Island to Great Wass Island. There is a narrow channel with a depth of about 17 feet through these ledges. Strangers, except in small craft drawing less than 5 feet, should not attempt this passage.

(144) **Egg Rock**, a bare rocky islet 15 feet high, is 1.3 miles west-southwestward of Crumple Island. Between the two are numerous rocks and ledges, including **Curlew Rock**, **Green Rock**, and **Seal Rock**. **Drown Boys Ledges**, awash at low water, are about 0.7 mile northward of Egg Rock. **Seahorse Rock**, which uncovers 5 feet, is 0.4 mile southwestward of Egg Rock and is marked by a lighted bell buoy about 0.2 mile to the southwest.

(145) **Outer Sand Island**, 44 feet high, is 2.4 miles northwest of Egg Rock. **Inner Sand Island**, 54 feet high, is 0.6 mile north of Outer Sand Island. Both are wooded. **Stanley Ledge**, 0.3 mile southward of Outer Sand Island, is 5 feet high, and **Batson Ledges**, 0.4 mile eastward of Inner Sand Island, are 22 feet high.

(146) **Drisko Island**, **Little Drisko Island**, and **Stevens Island**, northward of Sand Islands, are wooded. **Flat Island**, 1.3 miles west of Outer Sand Island, and **Green Island**, 1.5 miles north of Flat Island, are comparatively low and covered with

grass. **Plummer Island**, 0.4 mile east of Green Island, is 65 feet high and wooded.

(147) **Black Rock** is a 7-foot-high bare rock, 1.3 miles southward of Flat Island and 2.1 miles southeastward of Nash Island (chart 13324). An unmarked 35-foot shoal is 2.7 miles southward of Black Rock.

(148) The passage between Seahorse Rock, Drown Boys Ledges, and Ram Island on the east and the Sand and Drisko Islands on the west has a broad channel in its southern part, although there are unmarked dangers on either side. The northern end of the passage on either side of Hardwood Island is foul, and the passages should be used only with local knowledge.

(149) The passage westward of the Sand and Drisko Islands and Shabbit Island and eastward of Black Rock, Flat Island, and Plummer Island is comparatively clear, except for 28-foot spots 0.6 mile east and 0.3 mile northeast of Flat Island. Another comparatively clear passage (chart 13324) is westward of Black Rock, Flat Island, and Green Island, and eastward of Big Nash Island. Both passages can be used in the daytime in clear weather with the assistance of the chart.

(150) **Tibbett Narrows** is a narrow buoyed channel southward of Moose Neck on the sheltered inshore route for vessels westbound from Moosabec Reach. It is about 1 mile southwest of the western entrance of the reach. It is about 150 yards wide at its narrowest part and has a depth of 36 feet. Wooded **Tibbett Island** is on its northwestern side, and wooded **Ram Island** is on its southeastern side. An unmarked 25-foot spot is off its eastern entrance, and a 28-foot spot is on the north side of the channel about 250 yards off Tibbett Island.

(151) **Chart 13324.—Eastern Harbor** (44°30.5'N., 67°43.7'W.), on the west side of **Moose Neck**, is a secure anchorage for small vessels. The buoyed entrance is easily navigated in the daytime. The harbor has extensive flats and ledges, between which is a channel 200 yards or more wide. Fishweirs and fishweir ruins, partly covered at high water, are on both sides of the entrance.

(152) The anchorage with the best swinging room is in depths of 18 to 22 feet in midchannel, about 0.4 mile inside **Eastern Pitch**, the point on the west side of the entrance. Craft of less than 9-foot draft can anchor in depths of 9 to 15 feet in **Otter Cove**, which makes into Moose Neck, 0.6 mile northeastward of Eastern Pitch. Another good anchorage spot, in depths of 8 to 12 feet, is 200 yards northwestward of the wharf on the east side of the harbor, about 0.9 mile above the entrance.

(153) There are several rocky ledges that uncover in the northeastern part of the harbor. The flats are soft mud in places, and small craft sometimes are beached on them. A reef which shows well at low water extends 400 yards southward and southwestward from the point on the east side of the entrance. It is marked on its west side by a buoy.

(154) The wharf of a seafood processing plant is on the east side of Eastern Harbor, about 0.9 mile above the entrance at the village of **South Addison**. Depths of 5 feet are reported alongside the wharf. Gasoline, water, and limited marine supplies are available at the wharf or in the village. Engine and hull repairmen are available in the village in an emergency. Boats are usually grounded out for hull repairs.

(155) The approach is clear to Eastern Harbor, between Tibbett Island and Ladle Ledges, if these islands are given a berth of over 400 yards. From westward the approach is clear between the daybeacon south of Norton Island and Pot Rock. The approach

from Moosabec Reach is through Tibbett Narrows. Enter the harbor midway between the buoys at the entrance, staying midchannel and keeping a sharp lookout for an old fishweir on the eastern side of the entrance.

(156) Pleasant, Narraguagus, Harrington, and Pigeon Hill Bays, which indent the coast between Nash Island on the east and Petit Manan Island on the west, are the approaches to the villages of Addison, Harrington, Milbridge, and Cherryfield, all on tributaries of the bays. These waters are frequented mostly by local fishing boats. The bays are separated by islands and rocks, through which are several thorofares.

(157) Good anchorage can be found in Pleasant, Harrington, and Narraguagus Bays, the latter being used much as a harbor of refuge.

(158) The mean range of tide is 11.8 feet at Addison, 11.1 feet at Trafton Island, and 11.3 feet at Milbridge.

(159) From December to April, ice usually forms on Pleasant River and Harrington River to their mouths, and very frequently on Harrington Bay. Ice seldom obstructs navigation in Narraguagus River except in January and February, during which time the river usually is frozen to the mouth. In ordinary winters, the ice that forms in these bays goes out with the tides.

(160) **Pleasant Bay**, 1.2 miles westward of Eastern Harbor and 6.5 miles west of Jonesport, is a secure anchorage and is easily entered in the daytime. **Nash Island** and **Big Nash Island**, on the eastern side of the entrance to Pleasant Bay, are grassy. The tower of the former lighthouse on the west side of Nash Island is reported to be prominent. A fairway lighted whistle buoy is about 0.5 mile west of Nash Island. A ledge, the southern end of which uncovers 10 feet, extends about 500 yards southward from Nash Island.

(161) There are numerous islands and ledges in Pleasant Bay, but the important dangers are marked by buoys. A channel with a least width of 0.5 mile, and with depths of 36 feet or more, leads up the bay to the anchorages.

(162) Anchorage is available in depths of 30 to 36 feet westward of **Nightcap Island**, a grassy island with a few bushes on its north side 3.4 miles north of Nash Island, and southward of **Barton Ledge**, a buoyed danger awash at low water 0.4 mile northwest of Nightcap Island. A better anchorage, and the one used most frequently, is in depths of 14 to 18 feet southeastward and eastward of **Birch Islands**, wooded islands 0.7 mile north of Nightcap Island.

(163) No difficulty should be experienced approaching Pleasant Bay anchorage during daytime in clear weather with the aid of the chart. At other times it would not be prudent for strangers to pass northward of the vicinity of Nash Island, as there are no lighted aids in the bay. If need for shelter demands it, craft can proceed on a **344°** course for 2.2 miles from the lighted whistle buoy 0.5 mile westward of Nash Island, to a temporary anchorage in 60 feet in the middle of Pleasant Bay.

(164) **The Ladle** is about 0.9 mile north of Big Nash Island, and 0.7 mile southwestward of the entrance to Eastern Harbor. A grass-covered symmetrical 78-foot mound at the northern end is conspicuous. **Pot Rock**, 0.4 mile southwestward of The Ladle, is 6 feet high and bare.

(165) **Flint Island**, on the west side of the entrance to Pleasant Bay and 1.8 miles northwest of Nash Island, is 75 feet high and wooded. The island is a private wildlife sanctuary. Flint Island should be given a berth of 0.4 mile on its eastern and southern

sides. **Coles Ledge**, 0.3 mile eastward of the island, is awash at low water and marked on its eastern side by a buoy.

(166) **Flint Island Narrows** is a deep passage leading from Pleasant Bay to Narraguagus Bay between Flint Island and **Dyer Island**, 0.4 mile northward. The passage is used principally by fishing boats. The channel has a width of only about 200 yards at its narrowest part, but in clear weather with the aid of the chart little difficulty should be experienced in its passage, having due regard for the ledges that make out from the south shore of Dyer Island. A buoy, on the northern edge of the ledges making out from the northern end of Flint Island, marks the eastern entrance to the narrows.

(167) **Norton Island**, on the east side of Pleasant Bay and 2 miles north of Nash Island, is grassy. **Norton Island Ledge**, 400 yards westward of Norton Island, is 5 feet high in spots and unmarked. The reef extending 400 yards southward from the island is partly bare at high water and is marked by a daybeacon at its outer end.

(168) The channel between Norton Island and Cape Split, 0.4 mile eastward, is obstructed inside the entrance by a small unmarked rocky patch, covered 9 feet. Northward of Norton Island the channel is restricted by rocks and ledges.

(169) **Bay Ledge**, 0.7 mile south of **Willard Point** in the northwestern part of Pleasant Bay, uncovers 10 feet. Unmarked 13- and 15-foot rocky patches are 500 yards northeastward and northward of it.

(170) **Nightcap Ledge**, unmarked and extending southward from Nightcap Island, uncovers about 5 feet at the inner end.

(171) **Bunker Ledge**, 0.3 mile westward of the southern Birch Island, uncovers about 5 feet and is marked on its eastern side by a buoy.

(172) **Raspberry Island** and **Mink Island**, northward of Birch Islands, are grassy. **Fort Island** is 0.5 mile north of Raspberry Island.

(173) **Pleasant River** empties into Pleasant Bay from the northward. The channel is marked by buoys and a daybeacon from just below **Look Point** to within 0.7 mile of Addison. The river is seldom used except by fishermen, and the once extensive trade in lumber ceased many years ago. Passage up the river is suitable for small craft only, except with local knowledge, as the river is reported to have shoaled in many places. Above Addison, the river is still navigable to Columbia Falls, but is seldom used except by small craft which can clear the bridge just above Addison. Ice obstructs the river from December to April.

(174) The **West Branch** of the river at Addison is closed by highway fill and a bridge-dam which is fitted with clapper valves that prevent the flood tide entering the branch, but allow it to drain on the ebb and during freshets. A small clam-processing plant is on the east side of the entrance to West Branch.

(175) **Addison** is a village about 5 miles above the mouth of Pleasant River. There is no waterborne traffic except some fishing vessels. Gasoline and some supplies can be obtained from a general store with a service station. On the west side of the river, at the bend at Addison, there are the ruins of a cannery and its wharf. A highway bridge, which has a channel width of 36 feet and a clearance of 5 feet, crosses the river just above Addison. It was formerly a swing bridge, but has been inoperable for years.

(176) **Columbia Falls** is a village with a small shingle mill 5 miles above Addison. The falls and dam at the mill are the head of navigation on the river. The village has railway and bus service, and gasoline and groceries can be obtained here.

(177) **Harrington Bay** is separated from the upper part of Pleasant Bay on the east by **Ripley Neck** and from Narraguagus Bay on the west by **Foster Island**. The bay extends about 2.5 miles in a northerly direction to Harrington River. Good anchorage may be found in Harrington Bay in depths of 30 to 47 feet. The bay and anchorage are seldom used except by local vessels.

(178) **Strout Island**, in the middle of the entrance to Harrington Bay from Pleasant Bay, is wooded. **Strout Island Ledges**, southeastward of Strout Island, uncover 9 feet; the south end of the ledges is marked by a buoy. A rock awash at low water and marked by a buoy is 0.5 mile southeastward of Strout Island. **Shag Islet**, 0.3 mile northward of the island, uncovers 11 feet. The channel between Strout Island and **Otter Island**, 0.2 mile southward, is called **Strout Island Narrows**.

(179) With the aid of the chart, small craft approaching and entering Harrington Bay should have no trouble, but larger vessels and strangers should not attempt it without local knowledge.

(180) **Dyer Island Narrows** is a buoyed passage between Dyer Island and Foster Island that connects Harrington Bay and Narraguagus Bay; the passage has a depth of 8 feet. **Note** that the system of marking is from Harrington Bay to Narraguagus Bay; if entering the channel from Narraguagus Bay, odd numbers are on the right. There are numerous dangers close to the channel, and the buoys must be followed closely. Local boatmen report dangers in this channel and that a boat drawing 3 feet has struck boulders. Strangers should not attempt passage through Dyer Island Narrows without local knowledge.

(181) **Chamberly Island**, 2.5 miles north of Strout Island, is at the head of Harrington Bay.

(182) **Flat Bay** and **Mill River** extending northwestward from the head of Harrington Bay, are mostly bare at low water and are seldom used except by boats engaged in clamming.

(183) **Harrington River**, which empties into the head of Harrington Bay from northward, has a narrow, crooked, unmarked channel. The river shoals to a depth of 1 foot near the town of **Harrington**, at the head of navigation, about 4 miles above the mouth. A fixed highway bridge with a clearance of 12 feet crosses the river about 0.4 mile below Harrington. An overhead power cable with a clearance of 48 feet crosses the river on poles, about 0.3 mile below the town. A telephone cable crosses on the same poles about 20 feet below the power cable.

(184) The channel above **Nash Point**, 2.4 miles north of Chamberly Island, is narrow and tortuous. Motorboats and small fishing boats run up to the town at high water, but there are no arrangements for supplying them with gasoline and water. There is an inactive blueberry cannery and wharf on the north bank of the river, about 0.3 mile above the bridge, which is reported to have 2 feet alongside. The town has bus service. Ice forms in the river and bay between December and April as far down as Ripley Neck.

(185) **Narraguagus Bay** is about 6.5 miles northward of Petit Manan Island and 3.5 miles westward of Nash Island. The principal dangers in the channel are marked. The lighted whistle buoy west of Nash Island, the light on Petit Manan Island, and the lighted bell buoy eastward of Pond Island are guides for the entrance. The bay is connected with Pleasant Bay by Flint Island Narrows, and with Harrington Bay by Dyer Island Narrows, both of which have been described previously.

(186) The lower part of Narraguagus Bay is a well-sheltered anchorage, used as a harbor of refuge in all seasons by vessels up to 18-foot draft. The usual anchorage for vessels seeking shelter in

the bay is between Trafton Island and Lower Middle Ground buoy in depths of 21 feet, soft bottom. Vessels of 10-foot draft or less sometimes anchor in depths of 14 to 17 feet north of Trafton Island, about midway between it and the daybeacon on Trafton Halftide Ledge. Vessels bound up to Milbridge anchor in depths of 12 to 16 feet about 0.7 mile east of Mitchell Point, with the cannery pier bearing 274°. Good anchorage in a depth of 24 feet, soft bottom, may be found about 0.4 mile northeastward of the daybeacon on Trafton Halftide Ledge.

(187) Vessels should experience no trouble in approaching the anchorage in Narraguagus Bay with the aid of the chart in daytime and in clear weather, but should not go above Pond Island at night or above the anchorages in daytime without local knowledge.

(188) **Bois Bubert Island**, 5 miles west-southwestward of Nash Island, is on the western side of the approach to Narraguagus Bay. The high wooded island has several cottages along its western shore. **Jerry Ledge**, off the southeast end of Bois Bubert Island, uncovers 2 feet. A 15-foot spot just south of this ledge is marked by a buoy on its southern side.

(189) **Jordans Delight Ledge**, in the middle of the entrance to Narraguagus Bay and 1.6 miles east of Bois Bubert Island, has a least depth of 2 feet. A 5-foot spot, marked by a buoy, is at the south end of the ledge. **Black Ledge**, at the northeast end of Jordans Delight Ledge, uncovers 11 feet. The ground in this vicinity is very broken.

(190) **Mackerel Rock**, unmarked and covered 10 feet, is 0.6 mile north-northeastward from Black Ledge. The rock is slightly west of the range made by Black Ledge and Petit Manan Light. **Jordans Delight**, 3.5 miles west of Nash Island, is a rocky island 91 feet high and sparsely wooded on top. **Pond Island**, 3.7 miles west of Nash Island, shows from southward as a bare conical hill 158 feet high. Narraguagus abandoned lighthouse tower is on the eastern side of the island. This 18-foot tower, white in color and connected with a dwelling, is a conspicuous landmark easily seen to the eastward and southward, but cannot be seen to west and northward of it, being hidden by the trees and high land behind it. A cupola of a house near the north end of the island is conspicuous to northward. A lighted bell buoy is 0.3 mile eastward of the tower.

(191) **Douglas Islands**, between Pond Island and Bois Bubert Island, are wooded. **Douglas Island Harbor** is north of the Douglas Islands and west of Pond Island. The harbor has anchorage in depths of 24 to 35 feet, but is seldom used, since better anchorage is available above Trafton Island. Considerable sea makes into the harbor in heavy southerly weather. The harbor is clear except at its southwest end where **Douglas Island Ledge**, which uncovers 3 feet in places, extends 350 yards northwestward from the middle Douglas Island.

(192) Entering Douglas Island Harbor northward of Pond Island, pass northward and at least 0.3 mile westward of the buoy 0.3 mile north of the island. The harbor may also be entered from southward between the islands; the best channel is between the wooded island near the southwest end of Pond Island on the east, and the easternmost of the three Douglas Islands and the 6-foot high bare rock 250 yards southward from it on the west. Entering by this passage, avoid two rocks, which uncover, 125 yards southwestward of the wooded islet 250 yards off the middle of the west side of Pond Island.

(193) A narrow unmarked channel leads from Douglas Island Harbor into the head of Pigeon Hill Bay. This channel is bordered

on both sides by rocks covered and awash. The best water leads about 100 yards northward of **Currant Island**, which is wooded in the center and 0.3 mile north of Bois Bubert Island. While this channel is much used by local fishermen who follow the fishweirs as guides during the summer, it is not recommended for strangers.

(194) **Shipstern Island**, 0.5 mile west of Flint Island and on the eastern side at the entrance of Narraguagus Bay, is 95 feet high, round, and wooded and has rocky bluffs on its south side.

(195) **Tommy Island**, 0.8 mile northwest of Shipstern Island, is low and sparsely wooded. **Western Reef**, extending 0.4 mile southward from Tommy Island, has a bare rock 2 feet high on it and is marked by a buoy off its south end.

(196) **Trafton Island**, 0.5 mile west of Tommy Island, is 84 feet high and wooded. There is a good channel on either side of Trafton Island. **Trafton Island Ledge**, in the middle of the entrance to the cove on the north side of Trafton Island, is a bare rock. **Trafton Halftide Ledge**, 0.6 mile northward of Trafton Island, is partly bare at low water and marked by a daybeacon. In 1986, submerged piles were reported close east of the ledge.

(197) **Lower Middle Ground**, an extensive shoal on the west side of the bay westward of Trafton Halftide Ledge, is covered 2 feet and marked on its eastern side by a buoy. A private pier with float landing is on the point on the south side of **Stover Cove**, which indents the shore westward of Lower Middle Ground and about 0.8 mile southward of Mitchell Point (44°30.6'N., 67°51.4'W.). A reef extends from the point close southeastward of the pier. There is a lobster pound and wharf, dry at low water, on the south side of **Smith Cove**, immediately northward of Stover Cove. Gasoline and diesel fuel are piped to the wharf. Water is reported to be available.

(198) **Wyman** is a village on the western side of Narraguagus Bay, 1.8 miles northwestward of Trafton Island and westward of **Mitchell Point**. A 300-foot fish cannery pier, with a reported depth of 6 feet at its outer end, is on Mitchell Point. The aluminum painted metal stack at the cannery is conspicuous. Water is piped to the wharf; gasoline and diesel fuel can be delivered to the wharf by truck. A good highway connects with Milbridge.

(199) **Narraguagus River** empties into Narraguagus Bay from the northward. A dredged channel, marked by buoys, leads from the bay to the river, thence to two anchorages in the river off Milbridge, and thence to the Milbridge town wharf, on the east side of the river about 0.2 mile eastward of the bridge. In 1995, the controlling depth was 3 feet (4½ feet at midchannel) to the town wharf except for shoaling to bare in the turning basin at the head of the project; depths of 5½ feet were available in the lower anchorage except for lesser depths along the western limit, about 0.6 mile below the bridge at Milbridge, and 1½ to 5 feet were available in the upper anchorage except for shoaling to bare along the western limit. The channel is narrow and crooked and leads between flats that bare at low water. Strangers should navigate the river on a rising tide. Old fishweirs, only part of which show at low water, are on either side of the channel just above the fairway buoy off the entrance. Care should be taken in entering to have this buoy close aboard before heading up for the channel entrance, as the weirs are reported to be not visible at high water.

(200) The mean range of tide is 11.3 feet at Milbridge and is reported to be about 3 feet at Cherryfield, 4.5 miles above Milbridge.

(201) **Milbridge** is a small town on the west side of the river about 2 miles northward of Wyman. A cannery is just inside the

entrance to Wallace Creek, which empties into the west side of Narraguagus River over the mudflats, about 1.6 miles above Mitchell Point. The cannery wharf dries at low water, and the narrow crooked channel leading to it is marked by stakes.

(202) The Milbridge town wharf and float are on the east side of the river, about 0.2 mile east-southeast of the bridge. Depths of 8 to 10 feet are reported alongside the wharf, but less than a foot at the float. The wharf is used by fishermen to unload their catch for the cannery on Wallace Creek. Diesel fuel is available by truck, no other facilities are available at the wharf. A small-craft launching ramp is just west of the wharf.

(203) Care must be taken in the river channel when passing the area between Buoys 13 and 15 to clear the ruins of several piers and a wreck, which are on the west side of the river and extend from the shore to the western edge of the channel. The ruins consist primarily of submerged and partially submerged piling and timbers. Part of the lower ruin, which was formerly known as the upper steamboat wharf, is used occasionally by fishermen to unload their catch. A medical center is at Milbridge, and gasoline, diesel fuel, water, groceries, and limited marine supplies are available. U.S. Route 1, the primary coastal highway, passes through the town, and bus service is available.

(204) U.S. Alternate Route 1 highway crosses the river at Milbridge on a highway fill and two bridges. The bridge over the south channel has a swing span with a channel width of 28 feet and a clearance of 5 feet. (See **117.1 through 117.59 and 117.529**, chapter 2, for drawbridge regulations.) The bridge over the north channel has a fixed span with a clearance of 5 feet. An overhead telephone cable with a clearance of 25 feet crosses the south channel at the swing bridge. The south channel is used by craft when taking shelter in the anchorage above the bridge during heavy weather. There is reported to be a depth of 15 feet in the anchorage just above the bridge.

(205) The Narraguagus River above Milbridge as far as the head of navigation at Cherryfield, about 4 miles upstream, is mostly full of boulders that uncover. It is seldom used by any craft. Small boats drawing 3 feet are reported taken to Cherryfield at high water, and then only with local knowledge.

(206) **Cherryfield** is a town at the head of navigation on Narraguagus River. It has railway freight connections and bus service. The town is a center of salmon sport fishing. The primary industries in the town are a lobster trap plant, a lumbermill, and two blueberry canneries. An overhead telephone cable crossing the river a short distance below the highway bridge has a clearance of 21 feet.

(207) **Pigeon Hill Bay** (44°26'N., 67°53'W.) is entered eastward of Petit Manan Bar and northward of Petit Manan Island. The bay is not difficult to enter by day with the aid of the chart, but caution should be exercised to avoid the partly submerged fishweirs and fishweir ruins along the shores of the bay. One particularly dangerous fishweir is reported in the bay, about 0.2 mile eastward of **Chitman Point** (44°27.3'N., 67°52.7'W.). The bay affords good anchorage in depths of 12 to 24 feet, but is seldom used except by local fishermen. The channel is unmarked except at the southern entrance. The mean range of the **tide** is 11.1 feet in the bay. The small settlement of **Pigeon Hill** is on the west side of the bay, about 0.7 mile southward of Chitman Point. Small boats anchor on the west side of the bay off the settlement. There is a lobster pound and float, which bares at low water, about 0.6 mile northwestward of Chitman Point; gasoline and diesel fuel are available at the float.

(208) **Whale Ledge**, 1.4 miles south of Bois Bubert Island and on the east side of the entrance to Pigeon Hill Bay, uncovers about 6 feet. A buoy marks a 13-foot rocky patch 300 yards southward of the ledge.

(209) **Egg Rock**, 1 mile south of Bois Bubert Island, shows at low water as a large ledge of dark boulders, with several high parts that are always out of the water. There is a narrow unmarked channel between Egg Rock and Bois Bubert Island.

(210) **Gull Rocks**, extending 0.2 mile off the west shore of Bois Bubert Island 1.4 miles northward of Egg Rock, consist of a large outer ledge which uncovers 6 feet and smaller ledges inshore. These rocks can be avoided by keeping in midchannel.

(211) **Pigeon Hill**, conspicuous for some distance at sea, is a 317-foot-high, bare-topped hill on the western shore of the bay westward of Chitman Point.

(212) The thorofare connecting the head of Pigeon Hill Bay with Douglas Island Harbor has been described previously.

(213) **Petit Manan Island**, 7.7 miles southwestward of Nash Island, is low and bare, and marked by several buildings. **Petit Manan Light** (44°22.1'N., 67°51.9'W.), 123 feet above the water, is shown from a 119-foot gray granite tower on the east side of the island; a fog signal is at the light. **Petit Manan Reef**, marked by a buoy at its southern end, extends about 0.4 mile southward from the island.

(214) **Petit Manan Bar** extends from Petit Manan Island to **Petit Manan Point** on the mainland. The bar consists of ledges and large boulders through which is a channel, marked by two fairway buoys, the westernmost a bell buoy, that can be used by small vessels when the sea is smooth. There is 13 feet in the channel which is 1.3 miles northwestward of Petit Manan Light and 0.9

mile southeastward of Petit Manan Point. The buoys can be left close-to on either side.

(215) **Inner Bar** is another channel across the bar, 0.4 mile southeastward of Petit Manan Point; it is used by small local boats at all stages of the tide, but it is unmarked and difficult, and should not be attempted by strangers. The sea breaks along the whole length of the bar with a swell or in heavy weather.

(216) The mean range of the tide is 10.6 feet on the bar. The tidal currents set over it with considerable velocity, the flood northeastward and the ebb southwestward.

(217) **Green Island** is 0.4 mile northwest of Petit Manan Island. **Petit Manan Pool**, on the southeast side of Green Island and north of Petit Manan Island, is a small-boat harbor. The pool is bare at low water, but the bottom is soft and boats ground out at low water.

(218) **Simms Rock**, 1.7 miles south-southeastward of Petit Manan Light, is covered 6 feet and marked on its northwest side by a bell buoy. A rock covered 20 feet, about 0.2 mile southeastward, is unmarked.

(219) **Southeast Rock**, 3.2 miles southeastward of Petit Manan Light, is covered 5 feet and is marked by a lighted whistle buoy. An unmarked 41-foot shoal is 1.7 miles southwestward of Southeast Rock.

(220) **Jackson Ledge**, covered 23 feet, is an unmarked danger 2.6 miles east of Petit Manan Light.

(221) **Tibbett Rock**, 3.6 miles east-northeastward of Petit Manan Light, is covered 12 feet and another rock, about 0.8 mile southeastward of it, is covered 10 feet; both rocks are marked by buoys.

(222) **Jo Leighton Ground**, an unmarked danger covered 15 feet, is 2.1 miles northeastward of Petit Manan Light.